

SHOULD SOFTWARE ARCHITECTURES CHANGE TO ADAPT TO THE KNOWLEDGE ERA?

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Abstract: This paper aims to argue why software architecture, does no matter designed to manipulate knowledge or to support regular business activities, must change to adapt to the knowledge era. The first steps in this demarche will be represented in establishing a common meaning for different notions and concepts necessary. The last step will be represented by the proposed software architectures change. The distinction between data, information, knowledge, and wisdom is essential to the informatics theory of informatics systems to which software belongs to [1, 2]. Very briefly, data are the materialization, the representation of information or more simply a set of unconnected facts. The information is equivalent to knowledge and has to do with the semantic aspect of the meaning of data so that it is data associated with meaning (What?, Who?, When?, Where?) and relates to description, definition and perspective. Information obtained by corroborating data on the basis of the relationships deduced in the process of understanding that relations. Information in a work system can potentially take a variety of forms including numbers, text, sounds, pictures, video etc, and they can be created, modified or deleted with the system or other information can be simply received from other systems.

References

- [1]. Vasile Avram, Gheorghe Dodescu – Informatics: Computer Hardware and Programming in Visual Basic, Editura Economica, pages 11-46
- [2]. Vasile Avram, The Informatics and Enterprise in Information Society. Virtual organization., 2008, <http://www.avrams.ro/master/>
- [3]. AVRAM Vasile, Diana Avram, Managing knowledge within Small and Midsized Companies, rev. Informatică Economică, Nr. 44, ISSN: 1453-1305
- [4]. AVRAM Vasile, Diana Avram, Utilizarea sistemelor bazate pe proceduri pentru descrierea și automatizarea regulilor afacerii, in volume Calitate, Management, Integrare Europeana, Ed. Cartea Universitară, 2007, ISSN: 1582-2559
- [5]. The contribution of Knowledge Management Systems to Interorganizational Learning, Marla Beth Greenman, SIGMIS-CPR'06, ACM 1-59593-349-2/06/0004, 2006
- [6]. An Exploratory Study on the Roles of Network Structure and Knowledge Processing Orientation in Work Unit Knowledge Management - Seokwoo Song , Sridhar Nerur, James T.C. Teng, The DATABASE for Advances in Information Systems, Volume 38, Number 2, May 2007
- [7]. The Knowledge Pyramid: A Framework for Understanding the Challenges and Opportunities of Managing Decisions as an Enterprise Asset - CORTICON Technologies, Inc., www.corticon.com
- [8]. Albin, Stephen T. The Art of Software Architecture: Design Methods and Techniques. John Wiley & Sons. © 2003. Books24x7.
<http://common.books24x7.com/book/id_6020/book.asp>

- [9]. Len Bass; Paul Clements; Rick Kazman, Software Architecture in Practice, Second Edition, Addison-Wesley Professional, 2003
<<http://acmsel.safaribooksonline.com/0321154959>>
- [10]. Michael Harvey, Essential Business Process Modeling, O'Reilly, 2005
- [11]. Claudia M. Baca, Project Management for Mere Mortals®: The Tools, Techniques, Teaming, and Politics of Project Management, Addison-Wesley Professional, 2007,
<http://acmsel.safaribooksonline.com/9780321423450>
- [12]. Architecture Knowledge Management: Challenges, Approaches, and Tools - Muhammad Ali Babar, Ian Gorton, 29th International Conference on Software Engineering (ICSE'07 Companion), 0-7695-2892-9/07 IEEE Computer Society, 2007
- [13]. Tim Berners-Lee, Dan Connolly, Ralph R. Swick, Web Architecture: Describing and Exchanging Data, W3C Note 7 June 1999, www.w3c.org
- [14]. Daconta, Michael C., Leo J. Obrst, and Kevin T. Smith. The Semantic Web: A Guide to the Future of XML, Web Services, and Knowledge Management. John Wiley & Sons. 2003. Books24x7. <http://common.books24x7.com/book/id_6073/book.asp>